

Consultation Response from KC Lead Local Flood Authority		
2019/93661 Land Off, Sixth Avenue, Hightown, Liversedge, WF15 8LQ		
Erection of 10 bungalows		
Date Responded: 21 November 2019	Responding Officer: Aleksandra Tomczyk	Responding Ref: 0
<u>Summary</u> Kirklees Flood Management and Drainage as the Lead Local Flood Authority (LLFA) OBJECT to this planning application as no information on the management of surface water on site has been submitted. Kirklees LLFA also offer the below additional information and comments. <u>Records held by Kirklees LLFA</u> Contours for the area show the proposed development site appears to be relatively flat. Kirklees mapping suggests there are no watercourses (open or culverted) present on site or in proximity to the site. Kirklees mapping shows presence of a surface water sewer along Sixth Avenue (southern site boundary) and along an access road running along the eastern site boundary. Maps also show a combined sewer running along Windy Bank Lane – approximately 40 metres west of the proposed site. The proposed development site is located in Flood Zone 1 and in area of very low surface water flood risk. However, there is some low surface water flood risk on Sixth Avenue, along the site boundary. Kirklees holds no records of flooding on site or in proximity to the site. Kirklees records show that the location of the proposed development is likely to be suitable for infiltration features. <u>Additional comments</u> The applicant is seeking permission to erect 10 bungalows in the area of Hightown, Liversedge. The proposed development site is located along Sixth Avenue, stretching for approximately 65 metres north of the road. <u>Flood Risk Assessment and flow routing</u> As per the <i>Planning Practice Guidance</i>, any site of 1 hectare or more must prepare a site-specific flood risk assessment as part of the planning application. However, it is good practice for all developments to investigate their flood risk/resilience to ensure that are not vulnerable to flooding. This document should investigate all sources of flooding, their impact on the development and any mitigation measures required. Additionally, the applicant must consider the impact the development may have on flood risk elsewhere and ensure that these do not increase flood risk to third parties. Kirklees LLFA require an analysis of flow routing for the site to be provided, including any inflows from offsite and any flows originating on site such as drainage exceedance or gully bypass. Short, intense storms may bypass road gullies, particularly on steep ground. The flow route should avoid property curtilages where reasonably practicable, utilising roads and open spaces. Flow routing from attenuation should also be considered, in case of an exceedance event. The applicant should use <i>Designing for Exceedance</i> guidance to inform this design and safe disposal of any exceedance volumes. <u>Surface water drainage design</u> No information on the management of surface water within the proposed development has been submitted. According to paragraph 080 of the <i>Planning Practice Guidance: Flood risk and coastal</i>		

change, the discharge point of surface water should be assessed using the following hierarchy of preference:

- Into the ground (infiltration)
As previously stated in this response, Kirklees mapping shows the location of the proposed development as likely to be suitable for infiltration features. This is therefore the preferable way of discharging surface water, unless proven not to be feasible or suitable. Infiltration testing should be carried out to investigate this further.
Kirklees LLFA require the infiltration testing to be performed to BRE Digest 365 standard, in a location representative of where any proposed soakaway/infiltration feature(s) will be built. The rate determined from infiltration testing should be used to dictate the sizing and siting of these features.
If infiltration is proven not to be feasible, Kirklees LLFA require details of the present and future discharges from the site to be provided.
- To a surface water body
As previously stated in this response, there are no watercourses within the site boundaries or in a proximity to the site. However, the *Application Form* submitted with this application states that the surface water will be disposed into an existing watercourse. Kirklees LLFA need the applicant to state whether there is a watercourse and if yes, where this watercourse is located.
If infiltration is proven not to be sufficient or feasible, Kirklees LLFA require the applicant to specify the location of the watercourse they propose to discharge into as available records show no watercourses in the area.
- To a surface water sewer, highway drain, or another drainage system,
As previously stated in this response, Kirklees mapping shows a surface water sewer along Sixth Avenue and an access road along the eastern site boundary. If the above discharge options are proven to be unfeasible, and the applicant wishes to discharge into this sewer, Yorkshire Water should be consulted.
- To a combined sewer
As previously stated in this response, Kirklees mapping shows a combined sewer along Windy Bank Lane. If the above discharge options are proven to be unfeasible, and the applicant wishes to discharge into this sewer, Yorkshire Water should be consulted.

Discharge rate from all sites should be at pre-development greenfield equivalent run off rates. This rate must be calculated for only the impermeable/positively drainage areas, not for the entire site.

For this application, the site appears to be greenfield, therefore Kirklees LLFA require the applicant to provide attenuation on site and discharge surface water from the development at greenfield equivalent run off rates. To account for these restricted discharge rates, the site will be required to provide surface water attenuation features. These can take many forms, as described in the CIRIA *SuDS Manual*.

Kirklees LLFA require the applicant to provide surface water drainage information. This should include the proposed discharge point, discharge rate (including associated calculations), surface water drainage layout and MicroDrainage outputs to satisfy the modern standards of design:

- No surcharging above pipe soffit for critical 1 in 1 year storm event;
- No surface water flooding for critical 1 in 30 year storm event;
- No surface water flooding that may pose a risk to users of the proposed development or area off site for critical 1 in 100 year event + climate change;
- Zero allowance for latent storage (MADD Factor) unless it can be evidenced that this will be provided;
- Simulations provided from 15 minute to 24 hour storm duration; and
- Simulations provided for both summer and winter profiles.